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10/631,280	07/31/2003	Roger F. Fox	025374.018	3771

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EXAMINER
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BAREFORD, KATHERINE A

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/631,280

Applicant(s)

FOX ET AL.

Examiner

Katherine A. Bareford

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: (1) at pages 8, 9, 10 and 13 graphs are provided in the specification. These are drawings that need to be removed from the specification and reprovided as drawings, with figure numbers. The specification should be amended accordingly to reflect that that graphs are now figures. (2) at page 28, photograph type drawings are provided in the specification. These are drawings that need to be removed from the specification and reprovided as drawings, with figure numbers. The specification should be amended accordingly to reflect that that graphs are now figures.

Appropriate correction is required.

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: features of claims 2 (coniferous trees), 3 (all woods are not in the specification), 5 (the features of the claim ), 6 (propiconazole), 7 (the features of the claim), 9 (lignocellulosic substrate), 10-11 (the full ranges), 12-13 (the claimed ratios) and 14-15 (lignocellulosic substrates).

### *Claim Objections*

3. Claims 2, 5 and 8 are objected to because of the following informalities: (1) claim 2, lines 1-2, applicant should clarify that the "wood from a coniferous tree" is the "resin-containing

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wood" of claim 1 for proper antecedent basis. (2) claim 2, line 2, applicant should clarify that the "a wood preserving agent" is the "wood protectant" of claim 1 for proper antecedent basis. (3) claim 5, lines 1-2, applicant should clarify that the "resinous wood from a coniferous tree" is the "resin-containing wood" of claim 1 for proper antecedent basis. (2) claim 5, line 2, applicant should clarify that the "at least one organic biocide" is the "wood protectant" of claim 1 for proper antecedent basis, and clarify that the "carbon dioxide added" is the carbon dioxide of claim 1 and not a separate carbon dioxide addition. (3) claim 8, line 2, applicant should clarify if the additional impregnation is at the same time as the wood protectant impregnation or not.

Appropriate correction is required.

*Claim Rejections - 35 USC § 112*

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 9-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9, lines 2-4, "the improvement which comprises incorporating a pesticide or fungicide with the addition of carbon dioxide thereto prior to forming said composite product" is confusing as worded, because the claim previously does not describe impregnation of the pesticide

or fungicide into the substrate. As worded, there is no requirement of impregnation of the pesticide/fungicide and carbon dioxide into the substrate.

Claims 10 and 11, it is unclear what is meant by "weight of protectant" in the claims. Is the weight of a solution containing the specific protecting materials meant or is only the specific compound doing the protecting meant?

Claim 11, line 1, this method claim depends from claim 14, which is a product claim. Does applicant mean the claim to depend from claim 1? For the purpose of examination it has been treated as depending from claim 1.

Claims 12 to 13: the required ratio is unclear because no units are provided. Is the ratio in volume, weight, mole?

Claim 14, it is unclear what is required by this claim as it is a product claim depending from method claim 1. If applicant means to provide a product by process claim, it should be worded as is claim 15. Furthermore, "said lignocellulosic material" lacks antecedent basis, since claim 1 is for the impregnation of wood. Claim 9, from which the claim does not depend, refers to the lignocellulosic material.

CB Claim 15, <sup>it is</sup> unclear how the process of claim 1 can produce a lignocellulosic based product in general, when claim 1 is limited to a treatment of resin-containing wood.

### *Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 5-9 and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 00/27547 (hereinafter '547).

'547 teaches a method of performing an impregnating treatment on a resin containing wood substrate using a fluid. See pages 8-10. A wood substrate is provided. Page 8. The substrate is contacted with the fluid. Pages 8-10. Contact between the wood substrate and the fluid is maintained for a time period sufficient to obtain the desired penetration. Page 8. The fluid is a wood protectant with carbon dioxide added thereto. Pages 8-10.

Claim 2: the wood is from a coniferous tree. Page 9, lines 25-30. The wood protectant can be a wood preserving agent of fungicide or insecticide. Page 9, lines 20-30.

Claim 3: the wood from a coniferous tree can be spruce, fir, hemlock, pine or larch. Page 9, lines 25-30.

Claim 5: the wood can be from a coniferous tree. Page 9, lines 25-30. The wood protectant can be an organic biocide with the added carbon dioxide. Page 10, lines 20-30. The contact can be maintained for at least 10 minutes. Page 9, lines 20-30. The pressure can be greater than 5 bar, such as 20-500 bar. Page 9, lines 20-30.

Claim 6: the biocide can be propiconazole or tebuconazole. Page 11, lines 20-25.

Claim 7: the biocide can be dissolved in an organic solvent before being combined with the carbon dioxide. Page 11, lines 1-15.

Claim 8: the wood substrate can also be impregnated with colorants, fireproofing agents, and/or strength improving agents. Page 11, line 30 through page 12, line 5.

Claim 9: in order to provide a lignocellulosic product (wood) resistant to insect and fungal attack, the wood is treated with an impregnant of pesticide or fungicide and carbon dioxide. See pages 8-10.

Claims 14-15: a protected wood product is produced by the method of claim 1. see page 18, line 30 through page 19, line 5.

8. Claims 1, 3-4, 8 and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Dahlgren (US 3976594).

Dahlgren teaches a method of performing an impregnating treatment on a resin containing wood substrate using a fluid. Column 1, lines 5-20 and column 3, lines 50-68. A wood substrate is provided. Column 3, lines 50-68. The substrate is contacted with the fluid. Column 3, lines 50-68. Contact between the wood substrate and the fluid is maintained for a time period sufficient to obtain the desired penetration. Column 3, lines 50-68. The fluid is a wood protectant with carbon dioxide added thereto. Column 1, lines 10-20 and column 1, lines 45-55 and column 3, lines 5-10.

Claim 3: the wood from a coniferous tree can be pine. Column 3, lines 50-55.

Claim 4: the wood protectant can be a copper amine. Column 1, lines 45-60 (the copper forms an amine).

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Claim 8: the wood substrate can also be impregnated with fireproofing agents. Column 1, lines 15-20.

Claims 14-15: a protected wood product is produced by the method of claim 1. See column 3, lines 50-68.

9. Claims 1, 9-11 and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Hager (US 4287239).

W3 Hager teaches a method of performing an impregnating treatment on a resin containing wood substrate using a fluid. Column 1, lines 45-55 and column 5, lines 35-68. A wood substrate is provided. Column 5, lines 35-45. The substrate is contacted with the fluid. Column 5, lines 35-68. Contact between the wood substrate and the fluid is maintained for a time period sufficient to obtain the desired penetration. Column 5, lines 35-68. The fluid is a wood protectant with carbon dioxide added thereto. Column 3, lines 40-55 and column 4, lines 1-15.

Claim 9: in order to provide a lignocellulosic product (wood) resistant to insect and fungal attack, the wood is treated with an impregnant of pesticide or fungicide and carbon dioxide. Column 1, lines 45-55, column 5, lines 35-68, column 3, lines 40-55 and column 2, lines 15-25.

Claims 10-11: the carbon dioxide can be 0.80 weight percent of the protectant solution, for example. Column 3, lines 45-55.

Claims 14-15: a protected wood product is produced by the method of claim 1. column 5, lines 35-68.



10. Claims 1-3, 8-9 and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Japan 11-000904 (hereinafter '904).

'904 teaches a method of performing an impregnating treatment on a resin containing wood substrate using a fluid. See the abstract. A wood substrate is provided. See the abstract. The substrate is contacted with the fluid. See the abstract. Contact between the wood substrate and the fluid is maintained for a time period sufficient to obtain the desired penetration. See the abstract. The fluid is a wood protectant with carbon dioxide added thereto. See the abstract.

Claim 2: the wood is from a coniferous tree. See the abstract (pine or hemlock, for example). The wood protectant can be a wood preserving agent of fungicide or insecticide. See the abstract (note the materials listed) and paragraph [0001].

Claim 3: the wood from a coniferous tree can be pine or hemlock). See the abstract.

Claim 8: the wood substrate can also be impregnated with fireproofing agents. Paragraph [0001].

Claim 9: in order to provide a lignocellulosic product (wood) resistant to insect and fungal attack, the wood is treated with an impregnant of pesticide or fungicide and carbon dioxide. See the abstract (the materials listed) and paragraph [0001].

Claims 14-15: a protected wood product is produced by the method of claim 1. See the abstract.

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11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over '547 as applied to claims 1-3, 5-9 and 14-15 above, and further in view of Dahlgren (US 3976594).

'547 teaches all the features of this claim except that the protectant is copper amine.

'547 does teach that as a suitable fungicide various copper salts can be used. See column 11, lines 20-25.

Dahlgren teaches a method of performing an impregnating treatment on a resin containing wood substrate using a fluid. Column 1, lines 5-20 and column 3, lines 50-68. A wood substrate is provided. Column 3, lines 50-68. The substrate is contacted with the fluid. Column 3, lines 50-68. Contact between the wood substrate and the fluid is maintained for a time period sufficient to obtain the desired penetration. Column 3, lines 50-68. The fluid is a wood protectant with carbon dioxide added thereto. Column 1, lines 10-20 and column 1, lines

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45-55 and column 3, lines 5-10. The wood protectant can be a copper amine. Column 1, lines 45-60 (the copper forms an amine).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify '547 to use a copper amine as the wood protectant as suggested by Dahlgren in order to provide a desirably protected wood, since '547 teaches to use copper salts as the protectant to be impregnated into wood and Dahlgren teaches a desirable copper to be impregnated into wood is amine forming copper.

14. Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahlgren (US 3976594).

Dahlgren teaches all the features of these claims, as discussed in the 35 USC 102(b) rejection using Dahlgren above, except the precise amounts of carbon dioxide to be used.

Dahlgren does teach that when forming the protectant solution the mole ratio of amine:carbon dioxide is 1-4 and amine: amine forming metal is 1-7. Column 1, lines 45-55. Furthermore, the listed agents are placed in solution for impregnation. See Table 1, column 5, lines 1-35.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dahlgren to perform routine experimentation to optimize the percent of carbon dioxide in the protectant solution and the ratio of wood protectant to carbon dioxide given that the wood protectant is formed of a solution of various materials, and Dahlgren teaches the desired ranges of mole ratios of the various materials of the solution to each other.

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15. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hager (US 4287239).

Hager teaches all the features of these claims, as discussed in the 35 USC 102(b) rejection using Hager above, except the precise ratio of carbon dioxide to be used.

Hager does teach that when forming the protectant solution the weight percent of carbon dioxide is desirably 0.8 to 2.4 weight percent. Column 3, lines 45-55.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hager to perform routine experimentation to optimize the ratio of carbon dioxide to the protectant solution given that the wood protectant is formed of a solution of various materials, and Hager teaches a desired weight percent of carbon dioxide in the solution and that it is unclear what features the ratio is comparing (weight, volume, etc.). It appears that the given weight percent of carbon dioxide would give a ratio as claimed for at least some possible features.

### *Conclusion*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine A. Bareford whose telephone number is (571) 272-1413. The examiner can normally be reached on M-F(6:30-4:00) with the First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on (571) 272-1415. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and for After Final communications.

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Other inquiries can be directed to the Tech Center 1700 telephone number at (571) 272-1700.

Furthermore, information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
KATHERINE BAREFORD  
PRIMARY EXAMINER